

Work organisation and restructuring in the knowledge society¹

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Abstract

It is generally agreed that major changes in work are taking place in the organisation of work as corporate structures are transformed in the context of economic globalisation and rapid technological change. But how can these changes be understood? And what are the impacts on social institutions and on workers and their families? The WORKS project brought together 17 research institutes in 13 European countries to investigate these important issues through a comprehensive four year research programme.

Key-words: organisation of work; globalisation; technological change; Europe

JEL codes: A14; F23; J44; O14

Introduction

The WORKS project has been funded by the European Commission under its 6th Research Framework Programme. The project has set ambitious aims of improving our understanding of the major changes in work in the knowledge-based society. With the involvement of a wide range of EU partners the regional variety of European national economies, labour markets and welfare systems has been taken into account.

At the core of the research is the investigation of the evolving division of labour within and between companies and the related changes at the workplace. But not only

¹ This article is based on the research findings and publications of an international consortium including 13 European research institutes. The author wishes to acknowledge the contributions of all WORKS partners to the project outcome. More information on www.worksproject.be

company structures and restructuring have been analysed, but also the implications for the workers: the use of their skills and knowledge, the changing flexibility requirements they face and the impact of all these transformations on the quality of their working lives, their careers and their identities. The role of the social dialogue and the varieties of institutional shaping, as well as the gender perspective, are main stream concerns throughout the project's work.

The research included the analysis of European data on employment and on the quality of work and case studies in organisations and with individuals. The case studies covered a number of business functions (R&D, production, logistics, customer services and IT) in manufacturing industries (food and clothing), the service and the public sectors (software development, public administrations and public services). They represent a wide variety of activities and labour processes in the 'knowledge society' ranging from highly skilled 'knowledge work' to semi-skilled manual tasks. Each business function was studied in a range of countries with diverse employment and welfare regimes. Overall, 58 case studies were conducted in 13 countries and 30 case studies were conducted with six occupational groups: designers in the clothing industry; researchers in information and communication technology; IT professionals in software services; production workers in food or clothing; logistics workers in food or clothing; front office employees in customer relationships in public services. For the occupational studies the key perspective was to understand how individuals perceive and experience these changes and how they cope with restructuring in their everyday life.

Some highlights from the WORKS project

Global value chain restructuring

In recent years there has been an intensification of off-shoring and outsourcing and an intensified international division of labour. One of the key characteristics of off-shoring and outsourcing, and of current corporate restructuring in general, is the fact that different business activities are decomposed, fragmented and recomposed in different organisational forms, both contractually and spatially. As a result, inter-firm collaboration has become more important and organisational boundaries are no longer easy to define.

The WORKS research showed simultaneous processes of fragmentation and integration of value chains. Outsourcing is not only a strong tendency in manufacturing sectors but obviously also in service industries and in public services.

Both quantitative analyses and case study research confirm that support business activities, such as ICT services, logistics, and customer services and so on, are increasingly outsourced to specialised firms and sectors, thus contributing to a growing specialisation of industries and to a lengthening of value chains. However, in addition, and sometimes simultaneously, processes of in-sourcing and geographical and organisational consolidation are observed. Such 'integration' tendencies take place in view of strengthening overall control over the global value chain and improving the competitive position of the firm within the chain.

When analysing value chain restructuring different drivers were discerned. In some sectors, such as clothing, it was the extremely shortened innovation cycles of models and collections that are an important cause for VCR. In other sectors such as the food sector or in IT, mergers and acquisitions and growing internationalisation were the triggers for company restructuring. Cost reduction is still the prime motive for relocating production activities and privatisation is the main driver for restructuring public services. However, common across industries, seems to be the acceleration of business processes and the shortening of time horizons. Across industries, business processes are accelerating, and time horizons are becoming shorter and more heterogeneous. Increased speed and simultaneity concern the software industry where work is mostly project-based as well as the clothing industry, where traditionally, work used to be structured around the seasons, but it was observed as an important requirement in all sectors, companies and occupational groups.

Speed and innovation

At the same time, it is clear from the research that companies increasingly and constantly have to innovate in order to stay competitive and to secure their position in the value chain. Innovation is not in the first place about entirely new products or radically different processes. Firms need the capabilities for incremental, steady improvements in their products, organisation, processes and strategies. Innovation can be related to the shorter innovation cycles in clothing design, where companies switch from a two-season cycle to sometimes monthly renewed collections. Innovation in public services can be about improvement of customer friendliness or introducing ticketing vendor machines or more customer oriented telephone scripts in call centres. Innovation has become a constant requirement anytime and everywhere. In relation to the increasing networking between units of the value chains, innovation is specifically crucial because it is necessary for companies to move up the value chain. Hence, in a situation of growing complexity of all firms along a value chain, it becomes crucial to acquire activities that generate more value. This is observed as a very strong pressure in all sectors investigated. Moving up the value chain means that

higher added value functions have to be absorbed from other links in the chain, while at the same time the low added value activities are prone to be externalised further down the chain.

One example here is a Hungarian software company: belonging to an Austrian subsidiary of a large German electrical engineering company, its initial main asset was the lower salary-cost. However, the growing off-shoring of activities of the Austrian companies to locations more far away (hence cheaper and closer to the customer) puts this company under high pressure: they can no longer compete internally when projects are mainly assigned on a cost basis and they have on the contrary to move upwards to more core development activities, while outsourcing in turn the more routine tasks to cheaper locations, for instance to Romania, in order to remain cost-competitive as well. Therefore they have to invest in more competent employees.

Hence, it emerged from merely all case studies that staying competitive in a globalised economy means to innovate constantly products and processes. This means that companies have to reconcile two contrasting market demands: speed and innovation. Such innovation pressure puts high demands on the acquisition and use of knowledge in the company.

How do companies can cope with these demands and more precisely, how do they change their work organisations in view of enhancing their innovation capacities? In principle, one can assume that externalisation of the standardised activities, the pressure to move up the value chain, stimulate companies to introduce and strengthen organisational practices that facilitate innovation. It is known from a broad strand of research that the conditions for innovation are an organisational environment that allows creative workers to be creative, workplaces that facilitate learning and knowledge exchange, in the first place between employees coming from different parts of the production process within the enterprise or at the level of the value chain, but also in collaborative formats where employees actively interact with employees from other firms and with customers. In other words, one can assume that innovation building capacities lead to the introduction of organisational practices aimed at learning and knowledge-sharing for the employees.

Did the WORKS project find such innovative corporate environments? A genuine importance of such 'shop floor knowledge' for successful product innovation indeed appeared to be acknowledged by the management in some firms. Some firms set up collaboration with different experts both within the companies and beyond, both with colleagues and customers. Others installed specific 'value chain' coordination functions and introduced organisational technologies to strengthen and close the information loop along the value chain. An interesting example was found in a Belgian clothing company that relocated almost all production activities to low wage countries

but reconverted the highly experienced stitchers and incorporated in the design activities of the firm, with more complex and interesting jobs as a result.

But apparently most of the companies did not invest in strengthening the innovation capabilities of their workforce. On the contrary, it seems that speed and rationalisation are likely to win from innovation and the acknowledgement of shop floor knowledge. The research found several counteracting trends that hampered a strengthening of the innovative capacities of firms:

- The mechanism of internal tendering that is used in large IT companies investigated is one example. This corporate strategy to allocate orders leads to fierce competition to get the bid within large companies and within the chain. However, these competitors will eventually have to collaborate and share their knowledge to build the final product. Nevertheless, sharing their knowledge in view of this was often overruled by the pressure to remain competitive and to build site-specific knowledge. The cases of the clothing industry showed that the required creativity of designers was often threatened by the pressure to constantly renew the collections.
- A second rather worrying contra-indication to the implementation of innovative work organisations was found in the observation of a strong tendency of more standardisation and formalisation in companies. Standardisation, rationalisation and formalisation are occurring in different industries through the introduction of bureaucratic processes or technologies. In the food processing, the software production, customer services and the clothing companies, the formalisation and rationalisation of procedures, knowledge, job content and relationships are clearly reported.
- Third, the WORKS quantitative analyses also confirmed that organisations in the EU are rather evolving towards less than towards more learning job structures and work environments: analysis of the European Working Conditions Survey data showed that, on average in the EU-15, jobs have become less complex and more routine between 1995 and 2005 with workers having less task discretion; their jobs involve a lower degree of solving unforeseen problems and less learning opportunities.
- Finally, the quantitative analysis of panel data on individual changes showed that skill mismatches are widespread in the countries observed. A high proportion of workers in Europe feel overqualified for the work they do. Also dissatisfaction with work is widespread.

These results do not lead to optimistic expectations when it comes to estimating the future innovative capabilities of organisations nor of enough competent employees. This conclusion is important in that it can raise concerns about their longer-term position in the value chain and for their survival in an intensified globalised economic environment.

Employment impact: fragmentation

Another research question of the WORKS project was: “are organisations in restructuring evolving towards more flexible organisations in the sense of increased responsiveness to unforeseen requirements, market turbulences or opportunities?” Here, we could observe that value chain restructuring may unfortunately also be driven or stimulated by differentials in the working conditions between companies, sectors and countries. Restructuring can also be an additional trigger for a numerical flexibilisation of the workforce, more precisely an increased use of flexible contracts and flexible working times.

First of all, higher levels of contingent and precarious work can be found at the bottom of value chains. Second, the most comprehensive effects of value chain restructuring observed in the case studies are increased temporal pressures, related to increased impact from customers, time zone differences, increased market pressures and speeded-up businesses. Also the quantitative analyses based on data from different European sources finds an increase in temporary work, shift work and part-time work in most countries.

Third, a striking finding is that there is an increase in the fragmentation of employment conditions both across and within firms. In IT service provision, where a considerable internationalisation and lengthening of value chains was observed, workers formerly employed under the same contracts become fragmented workforces with different terms and conditions. In customer services, subsidiaries and external service providers operate under different labour regulations than their public sector counterparts. Manufacturing companies down the value chain, even within the same country, carry out more standardised tasks under more precarious labour conditions. In the food sector, we found examples of the relocation and outsourcing of production activities towards industries and regions where work is less secure and wages are lower. Obviously - activities that are relocated will be regulated according to the norms, rules and practices at the destination because these are not externalised together with the jobs and the activities.

A key conclusion with respect to the flexibility issue is therefore that value chain restructuring contributes to an intensified and increased inequality in working conditions and employment security along the chain. In addition; to the extent that

the work regulation and institutional context of the destination becomes the norm, it puts also under pressure the working conditions in other units of the chain. As was confirmed by the huge number of interviews with individuals confronted with restructuring, that were carried out in WORKS, feelings of insecurity were systematically reported, even in cases where the actual employment status in a strict legal sense was not precarious.

Therefore a main conclusion of the project is that restructuring often deeply affects employment and working conditions. In the case of value chain restructuring differences in wage levels and employment regulations between countries, sectors and companies directly impact on employment conditions. Contractual relations between organisations have consequences for, or even directly shape, employment relations and working conditions within the organisations. An overriding research finding is an increase in the fragmentation of employment conditions both across and within firms. The extent to which this growing flexibility is mitigated by income or employment security is for sure to a high extent dependent of the national welfare models, and the industry and/or the company level regulation. This was as such not investigated in WORKS, but it can fairly safely be concluded that value chain restructuring implies a redistribution of the insecurity and inequalities between regions and industries.

Of course, here too, some examples were found where workers could defend their interests in a context of restructuring and of increasing globalised interconnectedness of their company.

Impact on quality of work, skills and qualifications

The speed of changes and the pressure to be innovative in order to remain competitive imply that the workers need more skills in order to be able to respond to this speeding up of business and in order to be able to collaborate over the boundaries of their organisation, with workers of other firms, from other sites around the globe and with customers. These new skills do not necessarily concern the core professional skills, but concern social and communication skills, the ability to work fast and to combine information from very different sources, the flexibility to deal with different kinds of customers etc. Hence, the observed up-skilling is very closely related to work intensification.

Analysis of the European Working Conditions Survey showed that jobs have become less complex and more routine between 1995 and 2005; their jobs involve a lower degree of solving unforeseen problems and less learning opportunities. At the same

time, work in the EU-15 has become more intense. This intensification is mainly industrial i.e. linked to automatic speed of a machine or numerical production targets. In contrast, market constraints, i.e. those linked to direct demands of customers have decreased (especially during the last five years of the analysed period, i.e. between 2000 and 2005). Related to this intensification working conditions have also deteriorated.

Given this, it is then not a big surprise that a high proportion of workers in Europe feel overqualified for the work they do. This is especially high amongst people with fixed-term contracts or in casual work. Panel data on individual changes show that both dissatisfaction with work and skill mismatches are widespread in the countries observed, and while tending to be overcome through career switches, thereby contribute to the overall prevalence of work flexibility. People need to move in order to improve their working lives, which are under pressure.

The results show no decrease in job satisfaction at the aggregate level over time in almost any country. Factors which explain dissatisfaction with work, in virtually all countries, especially include the nature of employment contracts. People with fixed-term contracts or in casual work are likely to be dissatisfied with their work, but this improves if they move to other jobs.

The power relations between organisations within the value chain have immediate consequences for labour. The position that an organisation holds is not static, however, and thus a movement along the value chain may also change the quality of working life.

Changes in work and flexicurity: some considerations

The flexicurity debate is on the social agenda of the EU for several years. It is promoted as the answer to the challenges that most EU welfare states face, which is to respond to the pressure on both their welfare systems and their economic models, characterised by a growing internationalisation and by demographic evolutions such as the aging. On the one hand, globalisation and intensified competition require flexible organisations. On the other hand active labour market policies have to be developed to secure a sustainable level of labour market participation amongst the population.

The WORKS project did not focus specifically on the questions of the flexicurity which is focused on the tirade: economic policies strengthening flexible organisations, welfare state models preventing withdrawal from the labour market and assuring income security and vocational and educational training systems securing lifelong-learning. But the empirical research did give us some indications as to whether restructuring of global value chains might contribute or not to more flexible organisations. And on the other hand, it gave us some indications to the question to what extent the global value chain restructuring might contribute or not to employment security for the workers involved as well as to the improvement of their learning opportunities in view of sustainable employability.

First, when it comes to lifelong learning, it seems at least that a high proportion of workers feels that their current job is not very helpful to secure their future employability in a context of increased employment insecurity. As these concerns especially people with fixed-term contracts or in casual work, it appears that these people try to overcome this over-qualification through career switches. Second, to what extent, then, can workers rely on institutional structures to provide them with the skills and qualifications that are demanded in the firms? And to what extent, more precisely, are such structures available for providing the necessary skills and qualifications in situations of restructuring and change? Based on the case study research of WORKS, this is highly dependent from national and for regional VET structures, but also very much from sectoral structures as vocational training institutes are typically industry-based.

Based on the research, we observe in the sectors investigated, where the value chains are under restructuring that the different institutions that have to provide a skilled workforce are in deep transition. In the manufacturing sectors, they have to adapt to massive relocation of production activities and are basically eroding; in new, knowledge-based sectors, such as IT, they are still not very institutionalised. Hence, it seems that the opportunities for the employee for developing his or her skills are increasingly depending on the company strategy. And it seems in general that the individual employee is becoming more and more responsible for his or her employability and competence development. But the case studies also show that if value chains still need very firm- or sector-specific knowledge and skills, employers have to develop new forms of coordination between different (public and/or private) organisations in the chain and between different national settings in order to dispose of effective VET systems. Indications of such new industry-based or regional structures remain scarce, but we found some germs of innovated structures of VET in some sectors and regions.

In the clothing sector the erosion of industry-specific VET systems historically providing qualified stitchers to the industry, is likely to lead to an accelerating

relocation of production activities. In this sector, different responses to the need of more institutionalised qualification systems were nevertheless observed, both in terms of formal training initiatives and in terms of trends towards learning organisations. Often these were developed at the company-level, thus responding to the specific needs of one firm. But also new regional industry level initiatives came to the surface. The examples of the food sector and the public administration sector illustrated that sector-specific knowledge is still important and as a result sector based policies to stimulate workers to invest in these skills were found.

The cases of the outsourcing of IT in the public administration illustrated how companies have to develop new forms of coordination between public and/or private organisations in the chain and between different national settings in order to develop effective systems of skill development. In other sectors, such as software development, the qualification mechanisms remain basically company-oriented. But the internationalisation through mergers and acquisitions and the often accompanying up scaling of organisations and formalisation of HRM systems might open up new career and training opportunities, however depending on the extent to which these are available in the mother companies.

As a conclusion, how should the three dimensions of flexicurity in the context of value chain restructuring be assessed? The WORKS results seem to indicate that, to date, the general trend is one of a growing flexibility in terms of contracts and working times, inducing pressure on all nodes in the chain, while this growing insecurity is not easily accompanied with the required provisions and institutions to strengthen the labour market position of the workforce. It seems that the individual employee is becoming more responsible for his or her employability and competence development. In a situation of growing job insecurity and flexibility, which was reported as another outcome of the restructuring, such a personal responsibility may put additional pressure on the employees.

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